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FIG. 4

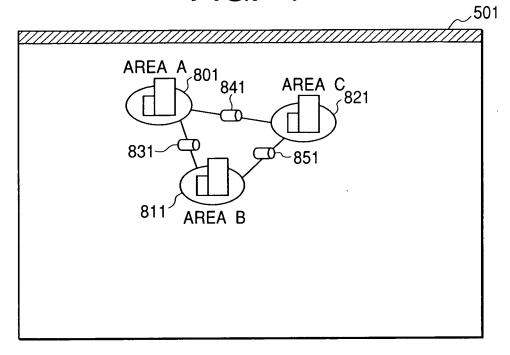
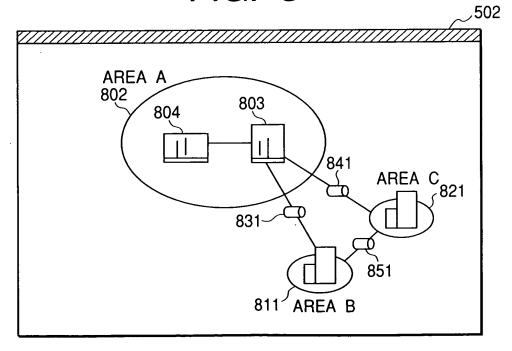


FIG. 5



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FIG. 6

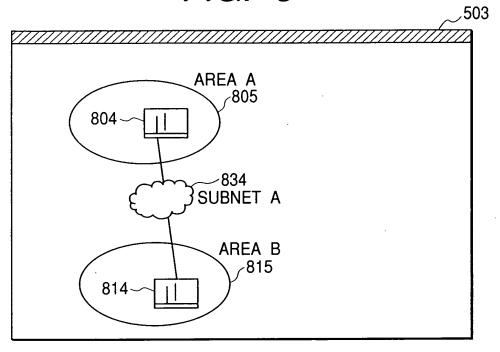
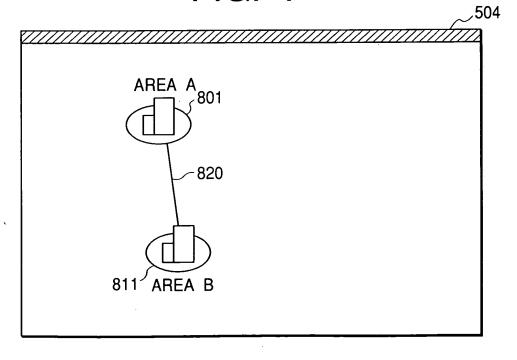


FIG. 7



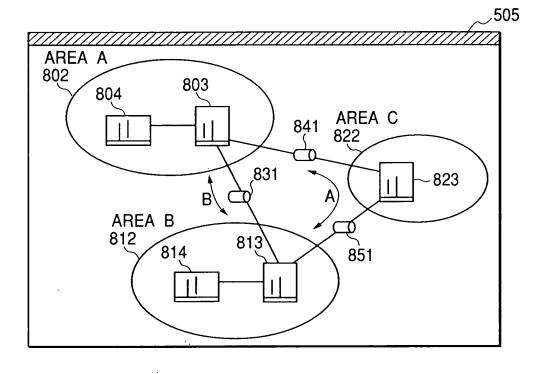




FIG. 9

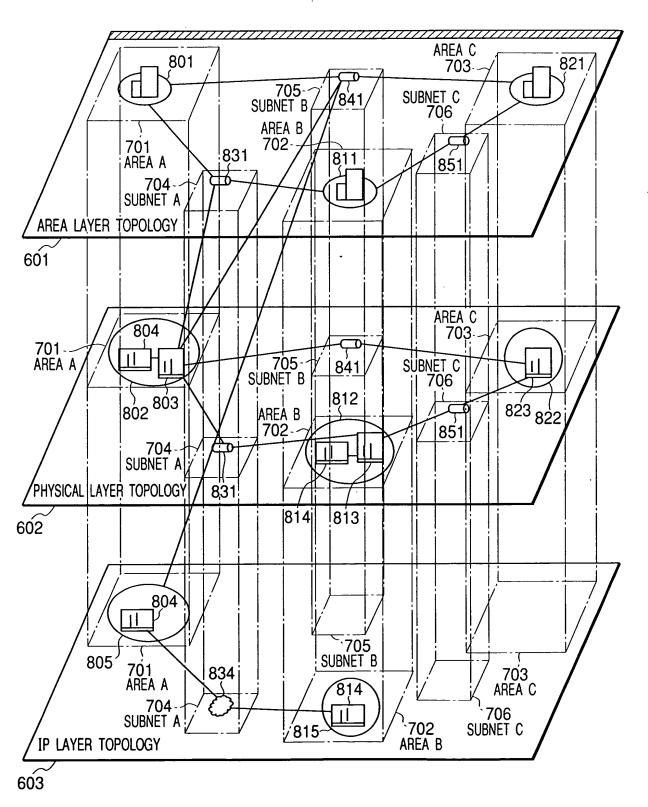


FIG. 10

```
(equip name="router804")
1
2
         \langle position x="20" y="50" w="40" h="20"/ \rangle
3
         (icon url="http://foo/router.gif"/)
4
        //equip>
 5
        ⟨equip name="atm-sw803"⟩
          \langle position x="30" y="10" w="20" h="30"/\rangle
6
          (icon url="http://foo/atm-sw.gif"/)
7
8
        </equip>
9
        (equip name="router814")
10
          \langle position x = "20" y = "50" w = "40" h = "20" / \rangle
11
          ⟨icon url="http://foo/router.gif"/⟩
12
        </ri>⟨ ∕equip⟩
13
        ⟨equip name="atm-sw813"⟩
          \langle position x="30" y="10" w="20" h="30" / \rangle
14
15
          (icon url="http://foo/atm-sw.gif"/)
16
        //equip>
17
        ⟨equip name="atm-sw823"⟩
          \langle position x="30" y="10" w="20" h="30"/\rangle
18
          (icon url="http://foo/atm-sw.gif"/)
19
        </equip>
20
21
        (location name="A-relay801")
22
          \langle position x="5" y="5" w="20" h="20"/\rangle
23
          (icon url="http://foo/relay.gif"/)
24
        25
          (location name="A-relay802")
26
          \langle position x="0" y="0" w="100" h="100"/\rangle
          (icon url="http://foo/relay.2.gif"/)
27
28
        ⟨ ∕ location⟩
        (location name="A-relay805")
29
          \langle position x="0" y="0" w="60" h="50"/\rangle
30
          (icon url="http://foo/relay.3.gif"/)
31
32
        ⟨ /location⟩
```

FIG. 11

```
(location name="B-relay811")
33
          \langle position x="0" y="0" w="20" h="20"/\rangle
34
35
          (icon url="http://foo/relay.gif"/)
36
        ⟨ ∕ location ⟩
        (location name="B-relay812")
37
          \langle position x="0" y="0" w="100" h="100"/\rangle
38
          (icon url="http://foo/relay.2.gif"/)
39
        //location>
40
        (location name="B-relay815")
41
          \langle position x="0" y="0" w="100" h="100"/\rangle
42
          (icon url="http://foo/relay.3.gif"/)
43
44
        //location>
45
        (location name="C-relay821")
          \langle position x="0" y="0" w="20" h="20"/ \rangle
46
47
          (icon url="http://foo/relay.gif"/)
48
        ⟨ / location⟩
49
        (location name="C-relay822")
          \langle position x="0" y="0" w="30" h="30" / \rangle
50
51
          (icon url="http://foo/relay.4.gif"/)
52
        //location>
53
        (net name="netA831")
          \langle position x="0" y="0" w="10" h="10"/\rangle
54
55
          (icon type="http://foo/physicalNet.gif"/)
56
        //net>
57
        (net name="netA834")
58
          \langle position x="0" y="0" w="10" h="10" / \rangle
          (icon type="http://foo/logicalNet.gif"/)
59
60
        </ri>
61
        (net name="netB841")
62
          \langle position x="0" y="0" w="10" h="10"/\rangle
63
          (icon type="http://foo/physicalNet.gif"/)
64
        //net>
65
        (net name="netC851")
66
          \langle position x="0" y="0" w="10" h="10"/\rangle
67
          (icon type="http://foo/physicalNet.gif"/)
68
        //net>
```

FIG. 12

```
\langle LOVD name = "A-relay-LOVD" x = "10" y = "10" \rangle
        (level num="1" w="30" h="30")
2
3
          (obj name="A-relay801"/>
4
        ✓ level
5
        (level num="2" w="100" h="100")
6
          (obj name="A-relay802"/)
7
          (obj name="router804"/)
8
          (obj name="atm-sw803"/)
9
        ✓ level
        (level num="3" w="60" h="50")
10
          ⟨obj name="A-relay805"/⟩
11
12
          ⟨obj name="router804"/⟩
        </level>
13
       </LOVD>
14
       \langle LOVD name="B-relay-LOVD" x="20" y="70" \rangle
15
        (level num="1" w="30" h="30")
16
          (obj name="B-relay811"/)
17
        </level>
18
19
        (level num="2" w="100" h="100")
          ⟨obj name="B-relay812"/⟩
20
21
          ⟨obj name="router814"/⟩
          ⟨obj name="atm-sw813"/⟩
22
23
        ✓ level
        (level num="3" w="60" h="50")
24
          ⟨obj name="B-relay815"/⟩
25
          ⟨obj name="router814"/⟩
26
27
        ⟨ ∕ level⟩
28
       </LOVD>
       \langle LOVD name = "C-relay-LOVD" x = "70" y = "20" \rangle
29
        (level num="1" w="30" h="30")
30
          ⟨obj name="C-relay821"/⟩
31
32
        </level>
        (level num="2" w="40" h="50")
33
34
          (obj name="C-relay822"/)
35
          ⟨obj name="atm-sw823"/⟩
36
         ✓ level
37
       </LOVD>
```

```
⟨LOVD name="netA-LOVD" x="25" y="50"⟩
38
         \langle level num="1" w="10" h="10" \rangle
39
          (obj name="netA831"/)
40
         </level>
41
         \(\text{level num="2" w="10" h="10"}\)
42
          ⟨obj name="netA831"/⟩
43
         </level>
44
45
         46
          ⟨obj name="netA834"/⟩
         </level>
47
       ⟨/LOVD⟩
48
       \langle LOVD name = "netB-LOVD" x = "50" y = "30" \rangle
49
         \(\text{level num="1" w="10" h="10"}\)
50
          ⟨obj name="netB841"/⟩
51
         ⟨ / level⟩
52
53
         \(\text{level num="2" w="10" h="10"}\)
          ⟨obj name="netB841"/⟩
54
         </le>
55
       </LOVD>
56
       (LOVD name="netC-LOVD" x="60" y="60")
57
         \(\text{level num="1" w="10" h="10"}\)
58
          ⟨obj name="netC851"/⟩
59
         ✓ level
60
         \(\text{level num="2" w="10" h="10"}\)
61
62
          ⟨obj name="netC851"/⟩
         </le>
⟨ / level⟩
63
64
       </LOVD>
65
       (init LOVD num="1"/)
```

FIG. 14

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	<pre> ⟨connection name="A-relay801"⟩ ⟨obj name="netA831"/⟩ ⟨/connection⟩ ⟨connection name="A-relay801"/⟩ ⟨obj name="netB841"/⟩ ⟨connection name="B-relay811"/⟩ ⟨obj name="netA831"/⟩ ⟨connection⟩ ⟨connection name="B-relay811"⟩ ⟨obj name="netC851"/⟩ ⟨/connection⟩ ⟨connection name="C-relay821"⟩ ⟨obj name="netB841"/⟩ ⟨/connection⟩</pre>
	⟨obj name="netB841"/⟩
	(/connection)
16	<pre>⟨connection name="C-relay821"⟩ ⟨obj name="netC851"/⟩</pre>
17	(obj name="netC851"/)
18	⟨∠connection⟩

```
(connection name="atm-sw803")
19
20
         ⟨obj name="netA831"/⟩
21
        </connection>
22
        ⟨connection name="atm-sw803"⟩
23
         (obj name="netB841"/)
24
        </connection>
25
        ⟨connection name="atm-sw813"⟩
         ⟨obj name="netA831"/⟩
26
27
        </connection>
28
        ⟨connection name="atm-sw813"⟩
29
         ⟨obj name="netC851"/⟩
30
        </connection>
31
        \(connection name="atm-sw823"\)
\( connection name="netB841"/ \)
32
33
        ⟨ ∕ cónnection ⟩
34
        ⟨connection name="atm-sw823"⟩
         (obj name="netC851"/)
35
36

<
37
        (connection name="router804")
38
         dobj name="atm-sw803"/>
39
        </connection>
40
        (connection name="router814")
41
         ⟨obj name="atm-sw813"/⟩
42
        (/connection)
43
        ⟨connection name="router804"⟩
44
         ⟨obj name="netA834"/⟩
45
        (/connection)
46
        (connection name="router814")
         ⟨obj name="netA834"/⟩
47
        </connection>
48
49
        ⟨connection name="A-relay805"/⟩
         ⟨obj name="netB841"/⟩
50
51
        (/connection)
```



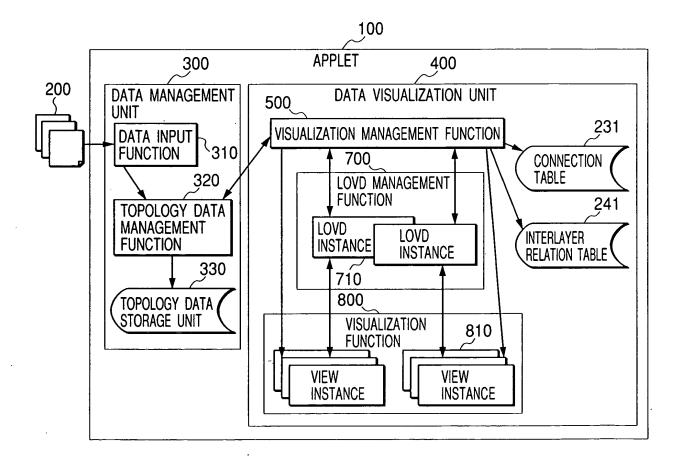


FIG. 17

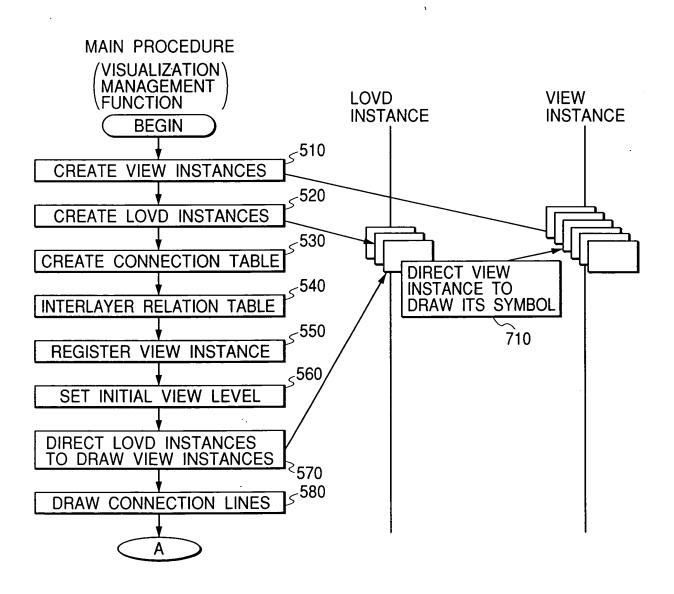


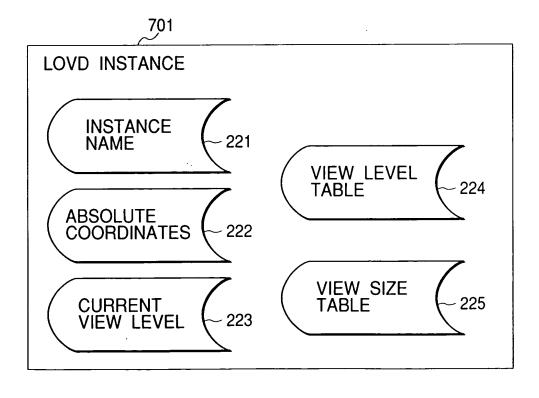
FIG. 18

VIEW INSTANCE	VIEW INSTANCE	
A-relay801	netA831	
A-relay801	netB841	
B-relay811	netA831	
B-relay811	netC851	
C-relay821	netB841	
C-relay821	netC851	
atm-sw803	netA831	
atm-sw803	netB841	
atm-sw813	netA831	
atm-sw813	netC851	
atm-sw823	netB841	
atm-sw823	netC851	
router804	atm-sw803	
router814	atm-sw813	
A-relay805	netB841	
router804	netA834	
router814	netA834	

FIG. 19

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PARENT INSTANCE	CHILD INSTANCE
netA834	atm-sw803
netA834	netB841
netA834	atm-sw823
netA834	netC851
netA834	atm-sw813

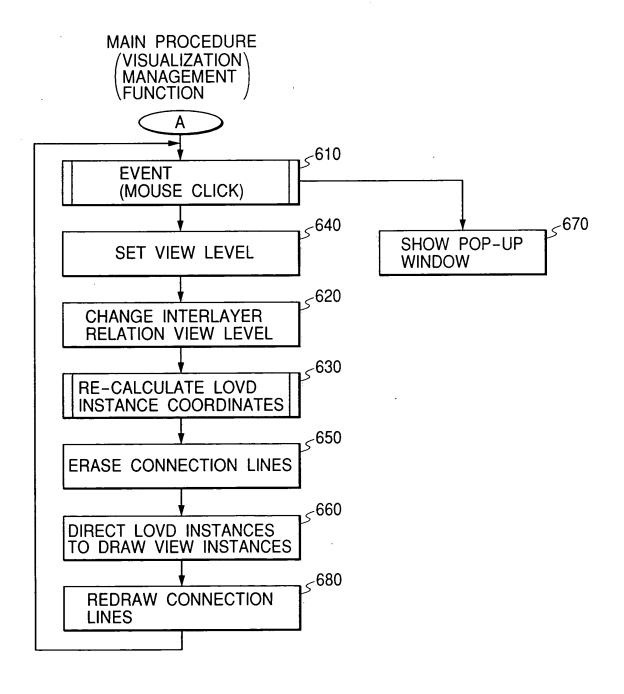


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VIEW LEVEL	VIEW INSTANCE	
1	A-relay801	
2	A-relay802	
2	router804	
2	atm-sw803	
3	A-relay805	
3	router804	

FIG. 22

VIEW LEVEL	WIDTH	HEIGHT
1	30	30
2	100	100
3	60	50



AREA LAYER

PHYSICAL LAYER

IP LAYER

FIG. 25

LOVD INSTANCE COORDINATES RE-CALCULATION

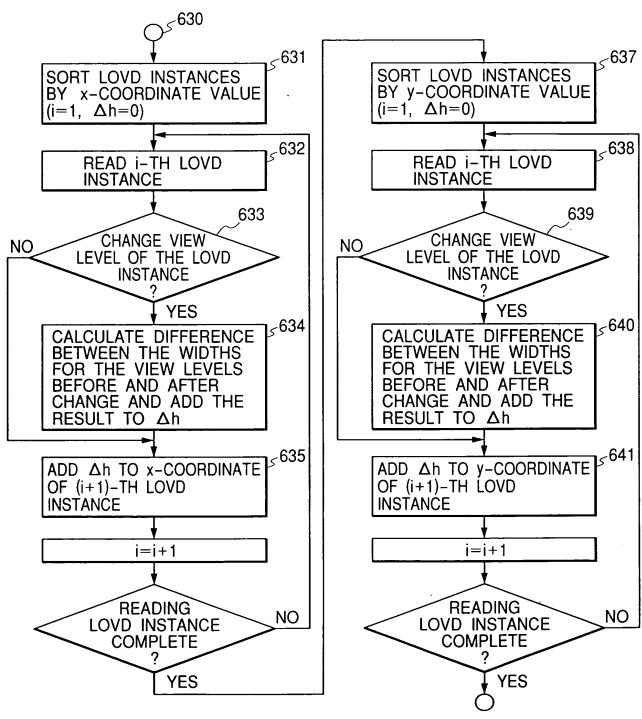


FIG. 26

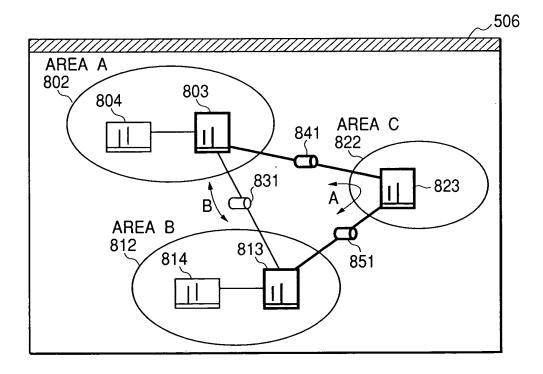
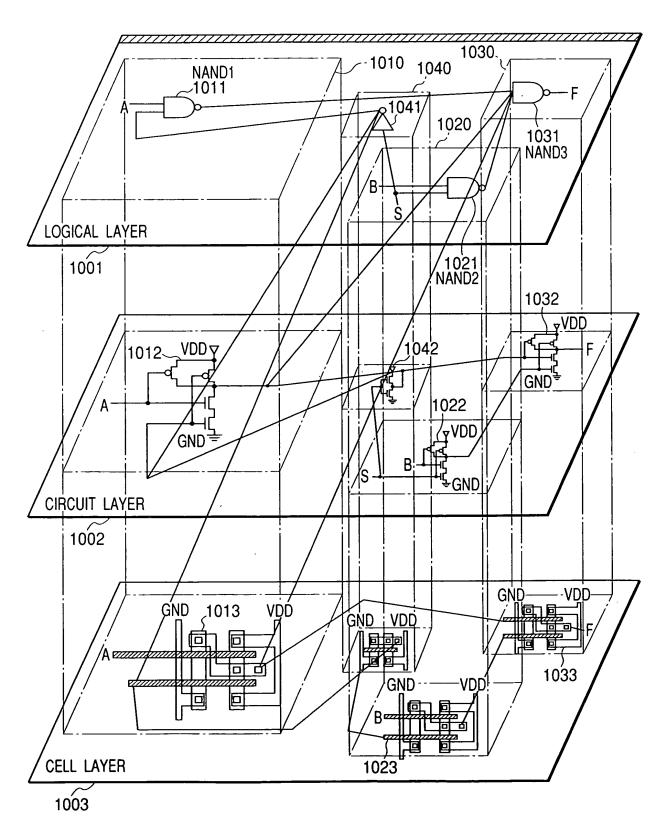


FIG. 27



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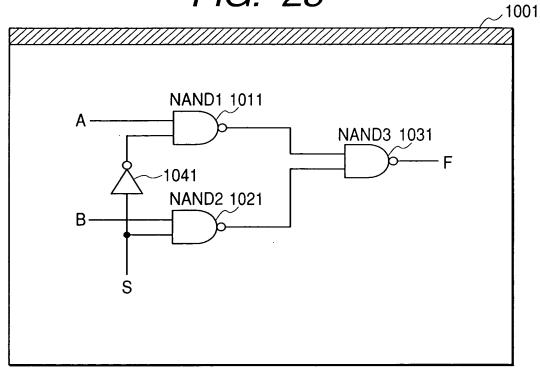
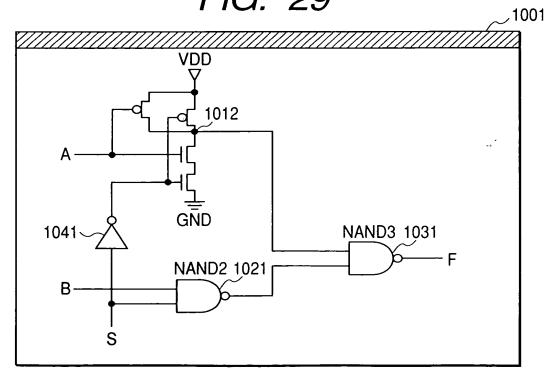


FIG. 29



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FIG. 30

